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**Minding the Skies**

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# **Minding the Skies**

by

**Bethany Jo Johnson, B.A.**

## **Report**

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May 6, 2011

## **Minding the Skies**

by

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The University of Texas at Austin, 2011  
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This report outlines the conceptual, procedural and material evolution of my artistic practice over the course of the past three years. Throughout all of the changes my artwork has undergone during this time, my work has always dealt with the combination of (and sometimes conflict between) a scientific, logical, utilitarian truth, and a more poetic, emotive and oblique conception of knowledge. This preoccupation reflects my own impulse to both understand my environment in the most conventionally factual way, while simultaneously acknowledging its hopeless (but profound and poetic) complexity, subjectivity and obscurity.

As a manifestation of these concerns, my artistic output includes diagrammatic compositions, philosophical illustrations, drawings of scientific imagery, portfolios of cartographic documents and methodical replications of scientific experiments. In this report I outline the various, complimentary ways in which I consider the notion of epistemological collapse.

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## MINDING THE SKIES

### 1. Romantic Science, an Introduction to my Work

The genius of Newton, of Shakespeare, of Michel Angelo, and of Handel, are not very remote from each other. Imagination, as well as the reason, is necessary to perfection in the philosophic mind. A rapidity of combination, a power of perceiving analogies, and of comparing them by facts, is the creative source of discovery. Discrimination and delicacy of sensation, so important in physical research, are other words for taste; and love of nature is the same passion, as the love of the magnificent, the sublime, and the beautiful.

—Humphry Davy, early 19<sup>th</sup> century chemist and inventor

Preceding the emergence of modern science in the mid-19<sup>th</sup> century, and along with it the categorization and professionalization of scientific study, intellectuals like Humphry Davy pursued a broad, often idiosyncratic and subjective exploration within what was then termed *natural philosophy*: an elastic, multifaceted examination of the physical universe. Davy's discussion of a natural philosopher's imaginative capacity and aesthetic sensitivity reflects the notion, typical of the period, of a fundamental interconnectedness between different types of knowledge: the scientific and the aesthetic, the impartial and the subjective, the rational and the emotional, the calculable and the immeasurable.

The superficially less ordered—but ultimately more comprehensive and holistic—intellectual attitude of the natural philosopher proves a productive model for my practice. I pursue the collapse of epistemological categories and the tentative reconciliation of superficially incompatible types of knowledge. This objective demands the appropriation of the diverse methods, languages and imagery of science, cartography,

philosophy, poetry and art, all of which rely on different systems of recording phenomena and which propose various definitions of truth. From these sources, I attempt to produce a provisional balance (or occasionally productive conflict) between the scientific and the poetic, the systematic and the spontaneous, as well as the informational and the aesthetic image.

My methods range accordingly from the impulsive through the procedural, from the rudimentary through the technologically advanced. Included among my pieces are diagrammatic drawings, reproductions of scientific documentation, reorganized cartography, recreations of historical scientific experimentation, as well as drawings of microscopic, seismic, cosmic and satellite imagery. Through the selection and visual translation of sources in my studio, an unexpected equivalence emerges between otherwise unrelated imagery and materials. The resulting, relatively narrow visual frequency between all of the works highlights otherwise undetectable connections and echoes among the images. The most significant unifying elements in my practice—the pursuit of rhizomal relationships and the manipulation of the informational image—are isolated and detailed below.

## 2. The Rhizome as Subject and Structure

Gilles Deleuze and Felix Guattari, both twentieth-century French philosophers and cultural critics, outline and subsequently apply their concept of the *rhizome* in their influential 1980 book, *A Thousand Plateaus*. With the term *rhizome*, Deleuze and Guattari propose an "image of thought" in which relationships between ideas are lateral, shifting, clustered, and nonhierarchical. They advance this visualization over the more familiar "arborescent" model, according to which our minds learn to categorize ideas within branched, vertical hierarchies sorted by sets of binary differences. The rhizome allows for (and therefore hopefully inspires) more lateral connections between otherwise dissimilar ideas, and doesn't prioritize more conventionally useful connections over more unusual or tangential ones.

The concept of the rhizome is fundamental to my practice, as it has proven almost universally descriptive of the way in which content and imagery interact within and between my pieces. Indeed, even before my familiarization with this concept, my earliest works consisted of overlapping diagrammatic imagery culled from a variety of sources, highlighting the compatibility between and unexpected convergence of superficially dissimilar content. For example, in *4-E.*, the cellular structure of an aerial subdivision diagram, the orderly rows of a library's architectural plans, branched structures and street maps all intertwine, creating a cluster in which the individual components are occasionally legible but are largely consumed by the new, composite structure (Fig. 1).

Composing these drawings, I found that diagrammatic imagery—having been subjected to severe editing, scaling and schematic simplification in service of its utilitarian



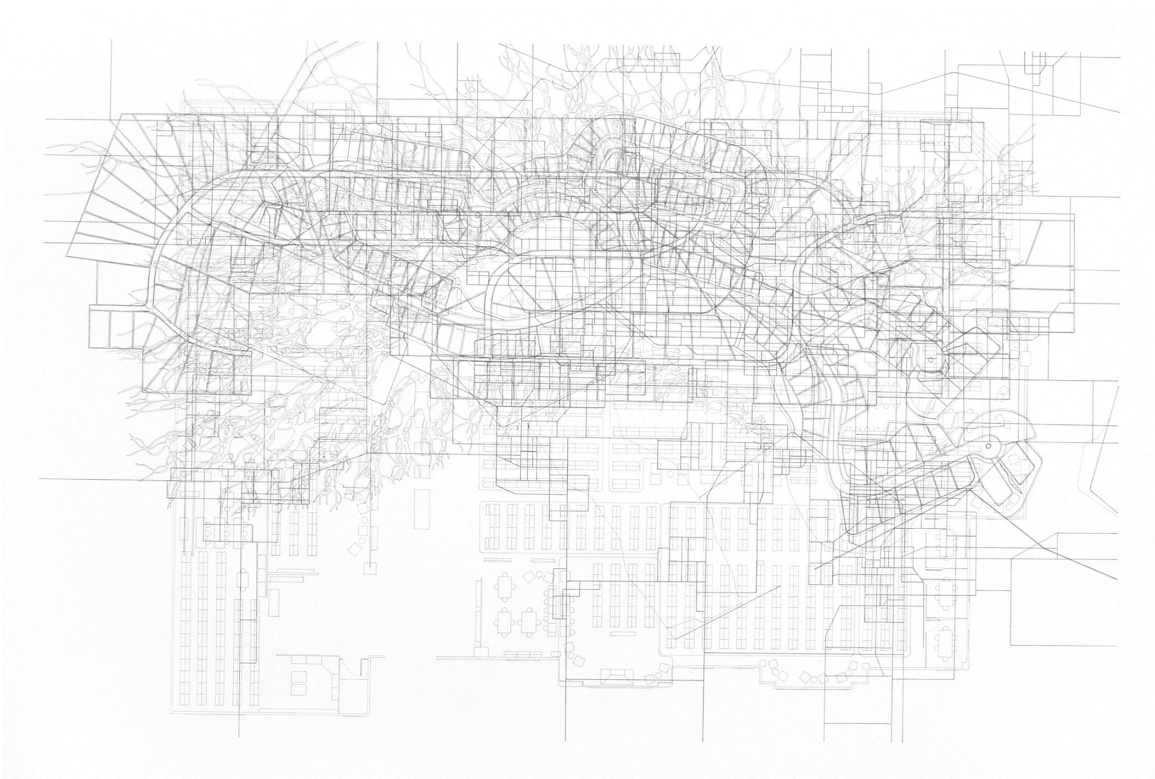


Figure 1

purpose—illuminated certain visual similarities between disparate phenomena. Through their juxtaposition, therefore, I sought to visually compare seemingly disconnected elements, finding parallels between organic and inorganic, chaotic and orderly, and micro- and macroscopic systems.

I subsequently began a body of work in which I grappled with the notion of Deleuze and Guattari's rhizome more directly. The previous pieces presented *instances* of rhizomal connectivity, and were therefore complicated conceptually by the content of the imagery depicted. With my new pieces I instead sought to represent the rhizome itself. The images, instead of relating specific systems, were themselves abstract tangles of connections in a limitless, lightless theoretical space. These drawings represented an

attempt to make the conceptual, the purely mental, visible: they map a physically nonexistent space (Fig. 2).



Figure 2

These works represent my most explicit exploration of the rhizome, and this imagery developed in tandem with the development of a novel material process. Hoping to complicate my formerly austere diagrammatic aesthetic, I developed a process in which I singed paper with a blowtorch to generate a soft, velvety black surface. The delicate suspension of carbon soot on the surface of the paper created a fragile, deep

matte black surface. The drawings were then produced by removing the soot with etching needles, brushes and other miscellaneous objects. This new material—soot on paper—proved an appropriate medium for the depiction of theoretical mental space: the environment generated by this method was lightless and vast, with the only light emanating from the seemingly internal glow or energy contained in the sinuous, tangled strands. In addition, the literal fragility of the drawings subtly mirrored the ephemerality of the content.

Under the influence of the Deleuzian rhizome, my work had moved from the specific to the abstract, from the example to the general law. Within these new drawings lay a paradox, however: in illustrating what I understood to be a more universal truth, a principle that described the individual phenomena I had been considering previously, I expected the images to more closely address the ideas I was exploring. However, in their extreme abstraction, the philosophical ideas also seemed to be even further from grasp, and the images threatened to devolve into the simply decorative or attractive. Consider, for example, a philosophical text that presents only abstract conclusions without any supporting evidence or concrete examples: the content itself becomes elusive and the text vacant. With this in mind, although these drawings were useful conceptually and sensuous visually, I subsequently considered the return to more recognizable imagery.

The work I've completed since the above drawings no longer attempts to depict, but rather embodies and applies Deleuze and Guattari's rhizomal structure. Fundamental to my practice is the discovery of unexpected equivalence between multiple sources, and my cumulative body of work has therefore become a rhizome itself, in which



disparate content relates in surprising ways, in which concepts cluster and disperse based on the works' translation, arrangement, proximity and context. My practice has evolved since the rhizome drawings to become a more holistic enterprise, in which the whole body of work functions as a shifting vocabulary or inventory of laterally related concepts.

Some of these juxtapositions exist within single pieces, as with my earliest diagrammatic works, whereas the relationships that other pieces generate are more contingent upon their contextualization among other images. As an example of the former, in the piece *Minding the Skies* I replicate a nineteenth-century meteorological experiment in which soot-covered glass is set out in the rain to record and subsequently study the size and distribution of raindrops (Figs. 3 and 4). While this piece does converse



Figure 3

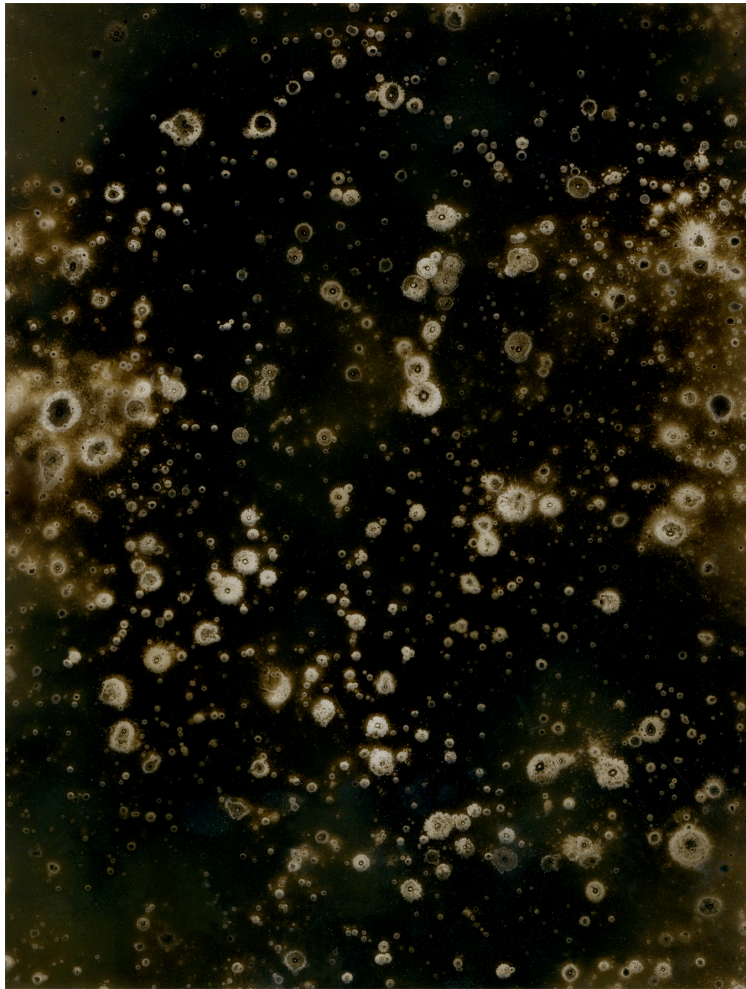


Figure 4

with other works, the most interesting relationship is internal to the work: the images at first glance resemble starscapes, and a mental flip therefore occurs for the viewer as the glass plates are perceived alternately as images or documents, as representations of the galactic or human scale.

Conversely, the group of pieces entitled *An Elemental Index* was conceived as a portfolio of documents that would create complex relationships only in combination; I conceived of them together as a sort of visual poem, in which each image is a small, dependent piece of a larger "text" that is mutable, open and reconfigurable (Fig. 5). The



Figure 5

montage of microscopic imagery, diagrammatic abstractions, cartography and meteorological imagery (presented within consistent material and formal parameters) invites comparison, connection and a kind of "reading" of the collection of images. This accumulation of works as a whole represents a rhizomal system, and could potentially be expanded indefinitely.

### 3. The Informational Image Expanded

Again, my work is generated in pursuit of a more holistic, nuanced conception of knowledge, much in the spirit of Humphry Davy and his contemporaries in natural philosophy. Often this pursuit leads me to the stereotypically informational image—diagrams, maps, graphs, scientific documentation and satellite imagery—as the generally understood site of "facts" or even "truth." The way in which I manipulate these sources accomplishes a productive composite of both the informational and the poetic, the legible and the elusive. Indeed, at their best, these works propose that there may not exist as vast of a distinction between these supposed extremes after all.

A manner in which the informational image is complicated and expanded in my work is perspectival confusion and the collapsing of scale and content. This strategy finds many different forms in my work, and is therefore best illustrated by several examples. First, within the series *An Elemental Index*, there exists a set of images titled *Stacked Lakes* (Figs. 6 and 7). These drawings were created by layering multiple outlines of lakes from cartographic sources. In these pieces, the familiar informational content of a map—scale, name and relative location—is eliminated. However, these works are not conceived to simply and belligerently undermine usefulness or legibility; rather, in the lakes' reorganization, a new, more open type of information emerges, a content having to do with the averaging of complex, fractal-like shapes when combined. Additionally, the restructuring leads to poetic pictorial associations such as nests, wreaths or tangles of hair, which results in a productive multiplicity of both scale and perspective (the drawings are



alternately conceived as aerial views of large geographic features or pictorial views of more intimately scaled objects).

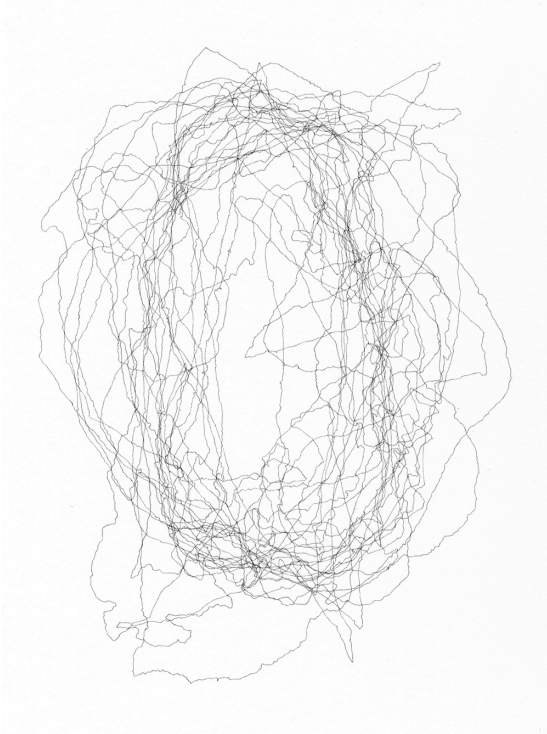


Figure 6



Figure 7

Another example of complicating an otherwise strictly informational source is my recent work with seismic imagery. In these works I have been copying images derived from deepwater seismic oil exploration (Fig. 8). In their hand-drawn translation, the linear system in these images (while visually still quite close to its source) begins to connect to a range of historical and conceptual referents: antique engravings, low-resolution computer graphics, and printing technologies. Additionally, removed from their literal context, the images themselves are permitted multiple reads, such as sand dunes, mountains, water or perhaps sound waves. This simple translation lends the source a productive flexibility and poetry that are absent in its original form and context.



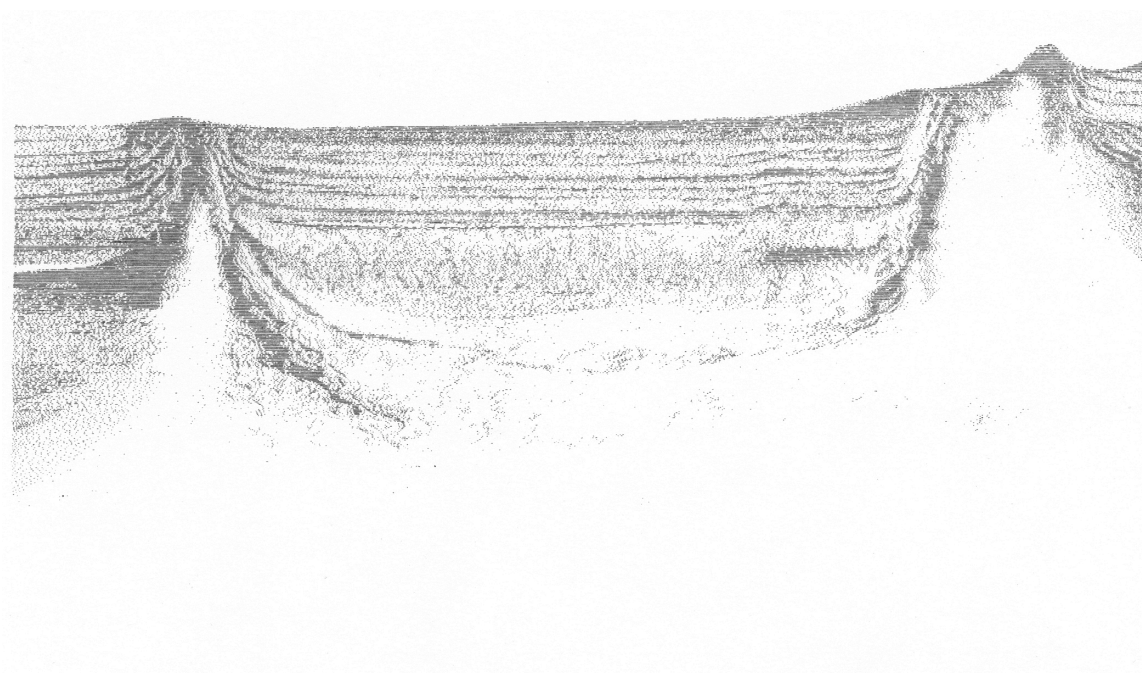


Figure 8

One of the simplest, but perhaps among the most profound manipulations of the informational image is the translation from sterile, mechanical source to delicately handled, materially sensitive, thoughtfully presented aesthetic result. Such transformation is the most powerful force behind the *Smoke Machine* drawings (Figs. 9 and 10). These images are translations (again in soot on paper) of photographic documentation of the experiments conducted by Etienne-Jules Marey, a nineteenth-century French scientist and chronophotographer interested in aerodynamics and flight. The below images depict jets of smoke passing through the flat viewing chamber of Marey's smoke machine, a contraption designed to study the behavior of air moving around obstacles. The drawings, in their removal from the photographic source, become intriguingly abstract

and more physically attractive, while still retaining the informational content of the original.

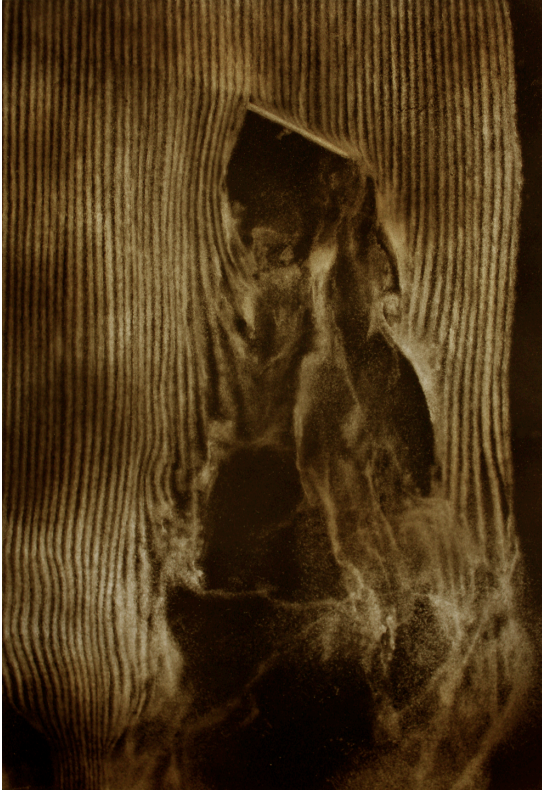


Figure 9

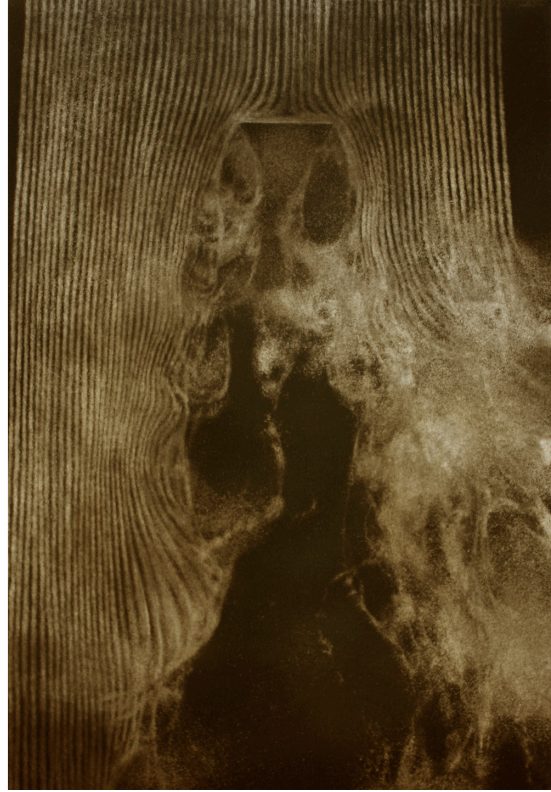


Figure 10

Another instance of the transformation from sterile scientific artifact to poetic art object is found in *Rain Collection*, a sculpture derived from another method of sampling the rain (subsequent to the aforementioned method using soot on glass): the placing of a tray of flour in the rain and the collection of the resulting rain "fossils" (Fig. 11). This, like *Minding the Skies*, is also a reproduction of a historical meteorological experiment, this time one invented in the mid-twentieth century by the amateur Vermont farmer/scientist William Bentley. Again, both rain collection pieces retain the procedural, scientific

method, and do indeed contain *data*, while also ultimately providing the viewer with a primarily aesthetic, emotive and visual experience.



Figure 11

A final iteration of the appropriation of scientific methods or imagery for more conceptually layered, aesthetic ends are the works created from my recent experimentation with the scanning electron microscope (Figs. 12 and 13). In this case, I adopted a scientific technology, not to investigate a hypothesis or execute an experimental procedure, but to explore an environment usually beyond the visible scale with an eye for composition and intriguing phenomena. The resulting images are evocative: because



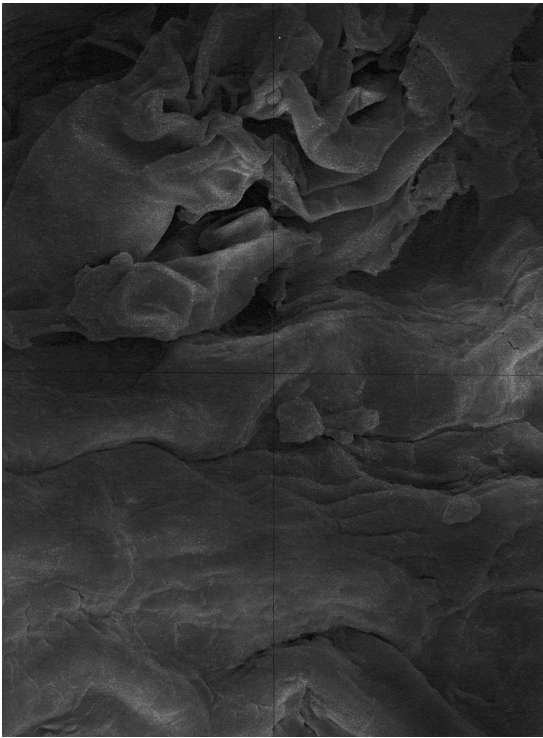


Figure 12

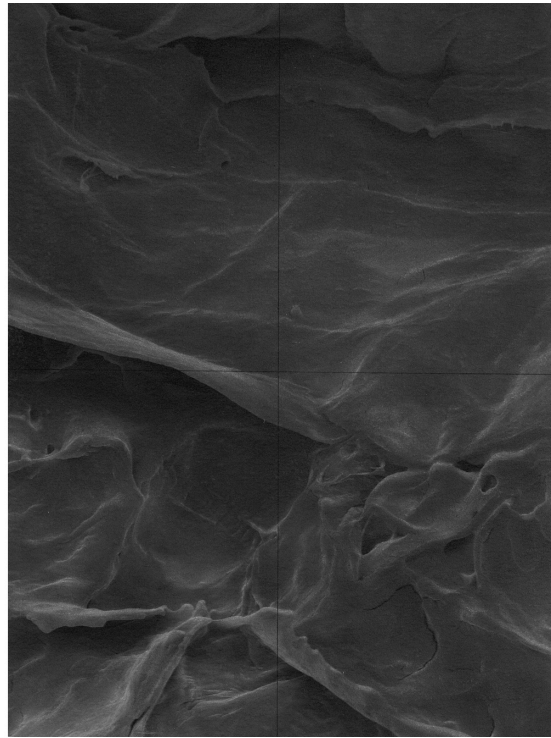


Figure 13

they are perceived as very specific—as having a real, tangible referent—but because this referent is foreign to one's usual perception, the viewer makes a range of visual associations, often relating the forms to objects at a more familiar scale. This mental searching, this equation of dissimilar phenomena inspired by a perfectly ambiguous image, could be described as a more abstract (indeed, more rhizomal) instance of the scientific, pattern-seeking imagination. Simultaneously, though, the sensitive surface and material physicality of the pages themselves, as well as the visual attractiveness of the content itself, infuses visual pleasure and an intuitive, poetic poignancy into images that are usually only viewed for functional, not aesthetic, purposes. The aesthetic impact, it is important to note, seems to function as the lure—as the first level of engagement with the

images—while the more cerebral content is unveiled with more studied attention and comparison between works.

#### **4. The Art of Knowledge, a Provisional Conclusion**

I believe the intellectual life of the whole of western society is increasingly being split into two polar groups [the sciences and the humanities]. [...] Between the two a gulf of mutual incomprehension—sometimes (particularly among the young) hostility and dislike, but most of all lack of understanding.

—C.P. Snow in "The Two Cultures"

In his influential 1959 lecture "The Two Cultures," the British writer and scientist C.P. Snow argued that those pursuing the humanities and those the sciences were hopelessly at odds, to great detriment to both fields' advancement. While I question whether the polarization was and remains as wide as he passionately claimed sixty years ago, I strongly support his enthusiasm for its opposite: a fundamentally holistic intellectualism, an inventive and productive cross-disciplinary exchange. This conviction, and its manifestation in my own work, is essentially a product of my own personal desire to understand my world in as many complimentary ways as possible.

My works orbit around quite large epistemological questions that provide the constant motivation and inspiration for my work. I acknowledge the vastness of my pursuit, and my practice represents an attempt neither to definitively answer these questions, nor to instruct or educate the viewer on any position I may have; the former would be impossible and both would be uninteresting. Instead, I embrace the strengths of visual art—mutability, openness, emotiveness—in combination with these ideas to power a lifelong practice creating works that invite contemplation, inspire curiosity, and at their best, subtly shift epistemological categories. Perhaps, in a small way, I may indeed contribute to the evolution of the science (and art) of knowledge.

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## **VITA**

Bethany Jo Johnson was born to Alan and Mary Jo Johnson in LaPorte, Indiana in 1985. She earned her Bachelor of Arts in studio art at Kalamazoo College in Kalamazoo, Michigan in 2007, graduating summa cum laude and with honors in her major. In August 2008 she entered the Graduate School at the University of Texas at Austin and will receive her Masters of Fine Arts in painting in May of 2011. She has also studied abroad in Germany and Italy, and received a fully funded one-month residency at the Vermont Studio Center in 2010. Since her enrollment at the University of Texas, she has received many fellowships including the Jack G. Taylor Memorial Endowed Presidential Scholarship, the M.K. Hage Endowed Scholarship in Fine Arts and the Kelly Fearing Endowed Scholarship.

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